REMARKS

Claims 1-50 are pending in the application. Claims 11, 27, 43 and 49 have been amended. Favorable action on the merits is earnestly solicited.

Claim 49 stands rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. The rejection is respectfully traversed. Amended claim 49 recites "[a] computer readable medium containing an image correction program, said program causing a computer to execute an image correction according to a method," which is clearly statutory subject matter. Accordingly, the rejection should be withdrawn.

Claims 7-16, 23-32, 39-48 and 50 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication 2003/0142884 to Cariffe ("Cariffe"). The rejection is respectfully traversed.

Independent claims 7 and 11 recite, *inter alia*, "a first corrector configured to correct in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; and a second corrector having a plurality of different correction modes configured to correct a distortion of the image of the book document in a sub-scanning direction."

Independent claim 23 recites, *inter alia*, "first correcting means for correcting in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; and second correcting means having a plurality of different correction modes for correcting a distortion of the image of the book document in a sub-scanning direction."

Amended independent claim 27 recites, *inter alia*, "a first correcting means for correcting in a main scanning direction a distortion of the image of the book document based on reference data; a second correcting means having a plurality of different correction modes for correcting a distortion of the image of the book document in a sub-scanning direction."

Independent claim 39 recites, *inter alia*, "first correcting in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; second correcting a distortion of the image of the book document in a sub-scanning direction."

Independent claim 43 recites, *inter alia*, "correcting in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; correcting a distortion of the image of the book document in a sub-scanning direction."

The claimed invention relates to an apparatus, a computer readable medium containing a program and a method for correcting a distorted book image. According to the claimed invention, a distorted image is corrected in a main scanning direction and a second correction is made in a sub-scanning direction.

Cariffe relates to a system, method and program for correcting binding curvature distortion of an electronically acquired image. Cariffe does not teach a corrector for correcting distortion in a main scanning direction and a corrector for correcting for distortion in a sub-scanning direction. The Office Action relies on the binding curvature distortion corrector 136 as both the first and second correctors. In Cariffe, however, the binding curvature distortion corrector does not make corrections based on the scanning direction. Instead, the Cariffe corrector identifies the brightness across the image, identifies the center line, rotates the image, if necessary, to make the centerline parallel to the scan access, obtains representative characteristics, models the pages 3-dimentionally using neural networks and maps the pages to the corrected image, straightens the text, and eliminates the brightness gradient and centerline. Cariffe does not disclose a corrector to correct distortion in a main scanning direction or a second corrector, having a plurality of correction modes, to correct distortion in a sub-scanning direction. The corrector of Cariffe corrects the binding curvature without regard to the scanning direction.

Accordingly, Cariffe cannot disclose or teach "a first corrector configured to correct in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; and a second corrector having a plurality of different correction modes configured to correct a distortion of the image of the book document in a sub-scanning direction," as recited in independent claims 7 and 11; "first correcting means for correcting in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; and second correcting means having a plurality of different correction modes for correcting a distortion of the image of the book document in a sub-scanning direction," as recited in independent claim 23; "a first correcting means

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for correcting in a main scanning direction a distortion of the image of the book document based on reference data; a second correcting means having a plurality of different correction modes for correcting a distortion of the image of the book document in a sub-scanning direction," as recited in independent claim 27; "first correcting in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; second correcting a distortion of the image of the book document in a sub-scanning direction," as recited in independent claim 39; and "correcting in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; correcting a distortion of the image of the book document in a sub-scanning direction," as recited in independent claim 43. Applicant respectfully requests the withdrawal of the rejection and allowance of independent claims 7, 11, 23, 27, 39, and 43 and dependent claims 8-10, 12-16, 24-26, 28-32, 40-42, 44-48 and 50 which depend therefrom.

Claims 1-6, 17-22 and 33-38, and 49-50 stand rejected under 35 U.S.C. 35 U.S.C. §103(a) as being unpatentable over Carffe in view of U.S. Patent 7,0752,527 to Nako ("Nako").

Independent claim 1 recites, *inter alia*, "a first corrector configured to correct in a main scanning direction a distortion of the image of the book document based on the reference data; a second corrector having a plurality of different correction modes configured to correct a distortion of the image of the book document in a sub-scanning direction."

Independent claim 17 recites, *inter alia*, "first correcting means for correcting in a main scanning direction a distortion of the image of the book document based on the reference data; second correcting means having a plurality of different correction modes for correcting a distortion of the image of the book document in a sub-scanning direction."

Independent claims 33 and 49 recite, *inter alia*, "first correcting in a main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; and second correcting a distortion of the image of the book document in a sub-scanning direction."

The claimed invention relates to an apparatus, a computer readable medium containing a program and a method for correcting a distorted book image. According to the claimed invention, a distorted image is corrected in a main scanning direction and in a sub-scanning direction.

Cariffe relates to a system, method and program for correcting binding curvature distortion of an electronically acquired image. As stated above, Cariffe does not teach a corrector for correcting distortion in a main scanning direction and a corrector for correcting for distortion in a sub-scanning direction. The Office Action relies on the binding curvature distortion corrector 136 as both the claimed first and second correctors. In Cariffe, however, the binding curvature distortion corrector does not make corrections based on the scanning direction. Instead, the Cariffe corrector identifies the brightness across the image, identifies the center line, rotates the image, if necessary, to make the centerline parallel to the scan access, obtains representative characteristics, models the pages 3-dimentionally using neural networks and maps the pages to the corrected image, straightens the text, and eliminates the brightness gradient and centerline. Cariffe does not disclose a corrector to correct distortion in a main scanning direction or a second corrector, having a plurality of correction modes, to correct distortion in a sub-scanning direction. The corrector of Cariffe corrects the binding curvature without regard to the scanning direction.

Nako does not make up for the inadequacies of Cariffe. Nako relates to an image correction apparatus in which the edges of the acquired image are detected, binding positions are detected and the shape of the document is determined. A 3-dimentional mapping of the image is created. The 3-dimentional mapping is used during image correction and the image is corrected for distortion, skew and luminance simultaneously. The reference parameters and the correction parameters are obtained on a pixel basis or in the form of a lattice. Nako does not disclose a corrector to correct distortion in a main scanning direction or a second corrector, having a plurality of correction modes, to correct distortion in a sub-scanning direction.
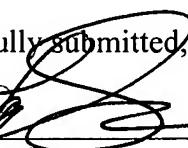
Cariffe and Nako, either alone of in combination, do not teach or suggest "a first corrector configured to correct in a main scanning direction a distortion of the image of the book document based on the reference data; a second corrector having a plurality of different correction modes configured to correct a distortion of the image of the book document in a sub-scanning direction," as recited in independent claim 1; "first correcting means for correcting in a main scanning direction a distortion of the image of the book document based on the reference data; second correcting means having a plurality of different correction modes for correcting a distortion of the image of the book document in a sub-scanning direction, " as recited in independent claim 17; and "first correcting in a

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main scanning direction a distortion of the image of the book document based on the reference data extracted from the image of the book document; and second correcting a distortion of the image of the book document in a sub-scanning direction," as recited in independent claims 33 and 49. Accordingly, Applicant respectfully requests the withdrawal of the rejection and the allowance of independent claims 1, 17, 33 and 49 and dependent claims 2-6, 12-22, 33-38, and 50 which depend therefrom.

In view of the above, Applicant believes the pending application is in condition for allowance. Favorable action on the merits is earnestly solicited.

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